BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

EPILEPSY

Thomas J. Orbison, Los Angeles.—"There is no such disease as epilepsy." This assertion was made by a physician on the witness stand in a Los Angeles court at a recent medico-legal trial, and it was received with incredulous surprise by the court and the lawyers as well as by the spectators and jury.

In his address to the members of the state medical society at Sacramento Dr. S. A. K. Wilson of England voiced the same thought, putting it in slightly altered form. Ten years ago anyone making any such dogmatic assertion would have been looked upon as slightly "off."

Today one may state, with the authority of most neuropsychiatrists whose work includes analyses of cases of epilepsy in large numbers, that epilepsy is not a disease. This is more nearly true than to say "there is no such disease as epilepsy."

To say "there is no such thing as epilepsy" is much too radical an elimination of a long known and recognized disease complex, characterized by convulsive attacks with unconsciousness or equivalents. The attempt is being made more and more to get rid of the emphasis that has always been given to the convulsions of epileptic patients. Convulsions *per se* are not the disease called epilepsy, but are a symptom of that disease complex. One may therefore say that the convulsive attacks, which have been diagnosed epilepsy, are in reality—and certainly to a much greater extent is this being determined as time goes on—the symptoms of irritation along the motor steps of the central nervous system. Thus it appears that what we call epilepsy is really not a disease, but a symptom complex in which many specific disease factors must be considered as etiological components.

One may set up typical epileptic attacks by irritating motor paths by an electric current. They appear in the Jacksonian type as the result of irritation by a foreign body—*e. g.,* tumor. They are known to result in the arteriosclerotic patient as the result of aneurysm or because of petechial hemorrhages. In paresis they come on as the result of toxic factors.

As a result of this attitude of finding the cause rather than of treating the effect (convulsion) many cases of "epilepsy" are cured following: (1) The removal of toxic foci, *e. g.,* dead teeth associated with apical abscess; toxic tonsils. (2) Exhibition of nonprotein shock in suitable cases, *e. g.,* as in the modern treatment of paresis. I would here cite two cases of "epilepsy" in children in whom congenital syphilis was demonstrated, both of whom ceased to have convulsions following nonprotein shock secured intravenously. (3) Removing local irritants from motor areas in the brain, *e. g.,* as in certain cases of "Jacksonian epilepsy." (4) Elimination of irritants from the body fluids by cleaning up the gastro-intestinal areas, *e. g.,* by corrective diet, etc. These are a few of the newer approaches in cases of "epilepsy."

Five years ago, with some temerity and a good deal of hesitation, I voiced my feeling upon this subject before the Neuropsychiatry Section of the American Medical Association. It was to the effect that in order to obtain a truer idea of the underlying factors in epilepsy there must be given us by research workers data having to do with the normal and abnormal sensitization of brain parenchyma; with biochemical factors within the body that affect the same; measures for desensitization or resensitization of pathological parenchyma, so that a normal sensitization may be induced. All these are most important, and as yet, though the idea has been widely voiced, we have not enough data to prove or disprove the theses stated. But, on the other hand, there is an accumulating mass of evidence that should soon be correlated so that it will give us more confidence in exhibiting certain definite specific therapeutic measures, rather than making a diagnosis of epilepsy and prescribing bromids or the like, as was too much the order of procedure some years ago. Though the name "epilepsy" may be unsatisfactory to the purist, nevertheless it probably will remain to designate those cases which are now so classed.

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Lovell Langstroth, San Francisco.—In the past year three patients with epilepsy have been referred to me for medical treatment because careful neurological examination revealed no signs of structural disease. I treated them according to the plan of Doctor Walker of the Mayo Clinic by a so-called ketogenic diet. Its caloric value was 25 per cent higher than the basal requirements, its fat to carbohydrate ratio high enough to keep considerable amounts of acetone bodies in the urine. Its ten to fifteen grams of carbohydrate were derived from lettuce and fresh, cooked green vegetables. It was preceded by a preliminary period of several days of semifasting on fresh, cooked green vegetables alone. In two of the cases

the attacks were not modified either in degree or in number, though acetone was constantly present in the urine for several months. In the third the attacks stopped for a time, but this improvement may not have been permanent, as the attacks had appeared only at monthly intervals and the period of observation was short. This man had lived almost entirely on meat and cereals. The ketogenic diet was free from cereals and contained more fresh vegetables and lettuce than his former one. It therefore provided several new factors, viz., lowered calories, change in the mineral content toward the alkaline side—freedom from cereals and perhaps increase in vitamins as well as the acetone bodies from which it got its name. I cannot see why the benefit derived from it should be attributed to the acetone bodies alone. To summarize:

My experience with ketogenic diets in epilepsy is limited to three cases. One of these was apparently benefited. The improvement in this case cannot be attributed to acetone bodies alone because the ketogenic diet was in other respects a great improvement on the previous diet.

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D. Schuyler Pulford, Woodland.—The latest noteworthy aid to the treatment of idiopathic epilepsy is the ketogenic diet. Credit for this diet is due largely to R. M. Wilder and M. G. Peterman, pioneers in the work.

The object of the diet is to produce a mild physiologic acidosis as evidenced by diacetic acid in the urine. This will occur when one eats five grams of fat to one gram of carbohydrate, each gram of protein being considered the equivalent of one-half gram of COH.

It matters little whether or not one uses a rigid formula in planning these ketogenic diets. The main thing is to hold the protein down to two-thirds of a gram per kilogram body weight in adults, and one gram per kilogram in children, supply adequate calories in fat and gradually cut out the carbohydrates until acetone bodies appear in the urine. Total calories should equal basal requirement plus 50 per cent

Clinically, in both old and young, it reduces the severity and number of convulsions and at times entirely banishes them. It has definite limitations, but patients, both children and adults, prefer to go on with it because of the improvement in their mental as well as physical well-being.

As an example, witness the further course of one of the cases reported by me to the California Medical Association in Oakland in 1926. It was necessary to institute a very rigid diet in the case of a little girl of ten, with a daily COH allowance as low as seven grams, over a period of six months. However, she was eventually free from both grand and petit mal attacks for nine months. In the past year it has been found that she has a COH tolerance of twenty grams, just like a diabetic, above which it is unsafe to go. This child's growth, development, blood pressure, and power to overcome infections has been normal, and both she and her family are satisfied to continue with this diet. Her mental condition is markedly improved.

I have three adult patients now under this diet treatment, so much relieved, if not cured, that they sing its praises. One other adult who took this diet for a year and a half has been free from convulsions for one year now, though on a moderately low COH diet during the past six months.

Another type of case worthy of mention is the person who has a definite organic basis for convulsions, as in one case recently operated upon by Doctor Naffziger. Preoperatively this girl of eighteen was markedly benefited by a ketogenic diet, though not cured. At operation the leptomeninges over the region of the precentral convolutions and adjoining sulci were thickened and milky in appearance, and in one or two places rather large cystic accumulations of fluid were present. Three months after the operation a convulsion returned. She can be made relatively comfortable again on a ketogenic diet. This case proves the diet of little use as a diagnostic procedure, as it reduced the number and severity of convulsions due to an organic cause.

Conclusions.—Neither the cause nor the treatment of so-called essential or idiopathic epilepsy is solved. Be it a neurosis, a functional disorder similar to insanity, or be it an allergic or a mineral or vitamin deficiency disease, nevertheless a ketogenic diet treatment should be offered every patient, be he old or young.

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John J. van Paing, Santa Barbara.—The subject of epilepsy is so large and so generally misunderstood that a short discussion does not completely clarify the situation.

The classification of epilepsy cannot remain as it is at present if we are anxious to progress in the treatment of this symptom complex. We must first realize that Jacksonian convulsion is not epilepsy as it should be understood, but a symptom of organic brain disease, as tumor, scar, or an irritation that is purely local in its origin.

The classification of the definite attacks as grand mal and petit mal by the French authors should cover the subject epilepsy, and I sometimes think that petit mal should be eliminated from this classification. There would remain the grand mal attacks, consisting of tonic and clonic convulsions, rigidity, loss of consciousness, involuntaries and stupor following, and this convulsive manifestation should be the criterion by which we diagnose epilepsy.

We should eliminate entirely the so-called epileptoid seizures and convulsions other than those that come within the scope of grand mal. The seizures that we see wherein the patient has a series of convulsive attacks which terminate in the epileptic equivalents or epileptic psychoses

should not be classified as epilepsy, because the condition which terminates this class of cases is the same condition which was the etiological factor in the beginning.

The psychological factor is an important one, and some of the apparently miraculous cures have been brought about along this line of treatment. It is impossible for us to realize the conflict, the feeling of inferiority and the deeply hidden, primitive instincts operating to produce many cases of so-called epilepsy.

The work of Clark, Binswanger, Osnato, Pollock, and a host of other men has been important in many ways in that they show among other things the great amount of scientific research necessary to cover the great field of convulsive phenomena. But decerebrate rigidity or "spinal epilepsy" does not show us the cause any more than the ketogenic diet provides the cure. We must, first of all, have a new conception of the term "epilepsy," a new classification, a new standard, by which we can conceive the strict limitations of a symptom complex, so protean in its manifestations and so difficult to understand. A symptom complex or a disease that affects about three or four per thousand of our population is important enough to deserve a great deal more time and study than has been accorded epilepsy in the past.

We may find that cerebral inhibition, or rather the lack of it, is an important factor, but that is only a single step in the process and we must go beyond that.

The treatment of this complex will require much more than ketogenic diet or any type of food to solve the problem of alleviation or cure. The large number that have been treated by the ketogenic diet proves by the controls that it is a factor only and must not be used alone or we will be greatly disappointed. My personal experience with this diet has been that it decreases the frequency of convulsive attacks for a period of months, but not to such an extent that I have felt justified in continuing it. If this diet is tried on a large number of cases it will be found that at the end of a year the number of convulsions covering the whole group will be almost if not quite as frequent as those who have had the basic diet or the diet low in fat.

The emotional instability of this class of patients is proverbial and of course it still obtains because the primitive in man is of such a nature that he lives through a series of abridgements or compromises with and adjustments to his environment and his emotional reactions to life in that environment which in all probability induces a chemical reaction, and this type of chemical reaction which follows the environmental one would hardly be primary in operation and, therefore, to place a system of feeding or a type of food which would tend to neutralize this secondary intoxication or chemical reaction would be to put the cart before the horse in this particular phase of convulsive attack. Psychologically the epileptoid individual may be homosexual, sadistic and inferior as well as primitive in his sexual sphere, and some of our most atrocious murders and mutilations can be traced to this class of individuals while the convulsive phenomena are held in abeyance. We may look for this especially in those who are retarded and where they are not under custodial care. Much could be done by surgeons specializing in brain surgery in that class of cases showing symptoms of pressure scars, tumors, etc., and it should be the specialist's responsibility to see that these cases are placed in the proper hands.

The Story of the Christmas Seal.—Every year millions of Christmas seals are sold in this country to control and prevent tuberculosis. They have become a symbol of the great war that is being waged against an ancient, preventable disease. But in 1904 the Christmas seal originated in a small way to give a chance for health to a group of tuberculous children in a foreign country.

In that year a children's hospital was needed in Copenhagen, Denmark. A postal clerk in that city named Einar Holboell heard of this and conceived the idea that stamps, especially designed to decorate Christmas letters and packages, could be made to finance the cost of the building. His enthusiasm won for him the endorsement of the Danish royal family, and the first Christmas seal was designed and placed on sale in the post office. The good citizens of Denmark pnrchased enough of them to insure for the sick children the best medical and nursing care available.

A pioneer in the field of social service in America received a letter from his mother country bearing one of the bright-colored little stamps. His name was Jacob Riis, and his curiosity aroused by this new decoration, he inquired about its purpose. The possibilities of its use in the United States impressed him. He wrote an article that was published in the *Outlook* in which he described what the stamp had achieved in Denmark.

In that article, Miss Emily P. Bissell of Wilmington, Delaware, found the solution of her own problem, namely, how to raise $3000 for a tuberculosis pavilion in her state. She organized the first sale of Christmas seals in the United States and as a result the pavilion was built. In 1908 Miss Bissell was able to induce the authorities of the American Red Cross to undertake a nation-wide sale of tuberculosis Christmas stamps. Women's clubs, religious bodies, and local Red Cross chapters assisted in the campaign. From then on until 1920 the Red Cross conducted the sale of the seals.

From 1907 to 1910 the National Tuberculosis Association had been organizing its warfare against the disease with the support of foremost scientists, but with little funds. To strengthen the organization's work, the American Red Cross joined with it in the Christmas seal sale. The partnership lasted for ten years. Then, in 1920, it was dissolved because the American Red Cross desired to continue its annual roll call, begun in the years of the Great War, and it did not wish to appeal to the public for funds twice a year. Since that time only the double-barred cross, emblem of the tuberculosis movement, has appeared on Christmas seals.

Through the power of the Christmas seal, state after state was gradually organized to attack tuberculosis with a scientific program. The state organizations entered the larger cities and counties and formed local associations. Together, led by the national body, they have brought into existence nearly all of the present-day community machinery for combating tuberculosis.

The little stamps help to control the sources of infection especially to children, to educate everyone in health habits, and to prevent economic loss due to the death of producers. This year the National Tuberculosis Association and its affiliated organizations held the twenty-first sale of Christmas seals throughout the country.—*Helena L. Williams.*